

Cybersecurity: The undiscovered country...

Jim Stikeleather



The power to do more



**"I offer a toast –
the
undiscovered
country – the
future."**



"If there is to be a brave new world, our generation is going to have the hardest time living in it."

"There are more things in
heaven and earth, Horatio, Than
are dreamt of in your
philosophy."

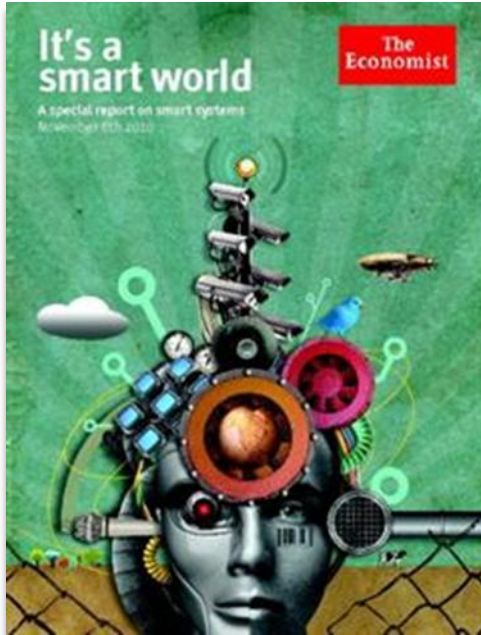


**"An undiscovered
country whose
bourne no travelers
return - puzzles the
will"**

A perfect storm is on the horizon...



Change wants to happen, Tech enables, facilitates and accelerates it...



Smart Everything



IT consumerization



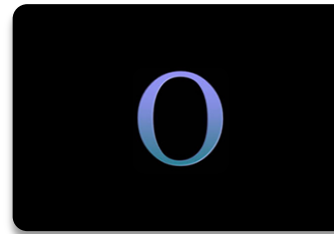
A new workforce
An old workforce



Work mobility & the
Hollywood model



Pervasive
simplification



Innovate to zero



Regulations &
cyber jurisprudence



Utility computing



Risk & security
management



The new normal

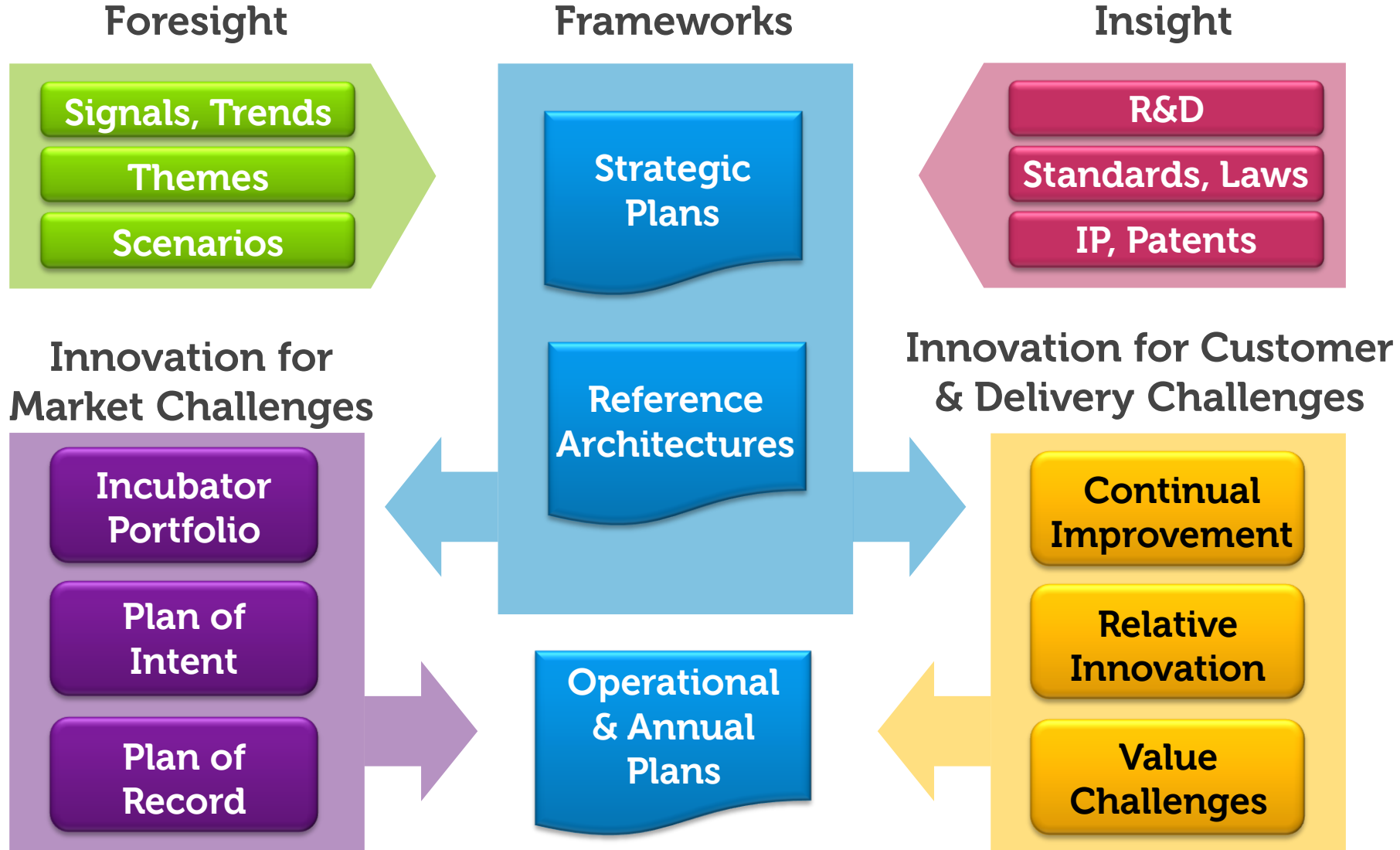
Convergent Thinking

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- The flowchart illustrates the New Product Development (NPD) process, starting with a 'STAR' logo. The process is divided into several stages, with feedback loops and decision points.
- Top Section (Problem Definition and Initial Development):**
- DEFINE THE PROBLEM/ OPPORTUNITY** leads to **FOR M M**.
 - FOR M M** branches into **IDEATION INTERNAL RESOURCES** and **IDEATION EXTERNAL RESOURCES**.
 - Both ideation boxes lead to **DRAFT NEW PRODUCT CONCEPTS**.
 - DRAFT NEW PRODUCT CONCEPTS** leads to **NARROW CONCEPTS UNDER CONSIDERATION OUTLINE FEATURES/ BENEFITS**.
 - NARROW CONCEPTS UNDER CONSIDERATION OUTLINE FEATURES/ BENEFITS** leads to **EXPOSE TO TARGET CUSTOMERS (QUALITATIVE)**.
 - EXPOSE TO TARGET CUSTOMERS (QUALITATIVE)** leads to three decision points: **KILL**, **CONTINUE**, and **REFINE**.
 - A feedback loop arrow points from the decision points back to **DRAFT NEW PRODUCT CONCEPTS**, labeled "How far back depends on feedback received".
- Middle Section (Business Case and Initial Testing):**
- A dashed line separates the top section from the middle section, labeled "May require refinement of business case and funding".
 - ESTABLISH SUCCESS CRITERIA** and **HIGH LEVEL REQUIREMENTS** lead to **DEVELOP BUSINESS CASE/ OBTAIN APPROVAL TO PROCEED (Mgt Review)**.
 - DEVELOP BUSINESS CASE/ OBTAIN APPROVAL TO PROCEED (Mgt Review)** leads to **PLAN DEVELOPMENT AND INITIAL TIME LINE (Early Development Review)**.
 - PLAN DEVELOPMENT AND INITIAL TIME LINE (Early Development Review)** leads to **EXPOSE TO TARGET CUSTOMERS FOR VOLUME ASSESSMENT (QUANTITATIVE)**.
 - EXPOSE TO TARGET CUSTOMERS FOR VOLUME ASSESSMENT (QUANTITATIVE)** leads to **EXECUTIVE MANAGEMENT REVIEW (Investment Committee)**.
 - EXECUTIVE MANAGEMENT REVIEW (Investment Committee)** leads to three decision points: **KILL**, **DESIGN, DEVELOP & PILOT**, and **TEST MARKETING PREPARATION**.
 - DESIGN, DEVELOP & PILOT** leads to **TEST MARKETING PREPARATION**.
 - TEST MARKETING PREPARATION** leads to **TEST MARKET (NEW PRODUCT INCUBATOR)**.
- Bottom Section (Product Development and Rollout):**
- A dashed line separates the middle section from the bottom section, labeled "Continuity".
 - TEST MARKET (NEW PRODUCT INCUBATOR)** leads to **POST TEST MARKET EVALUATION**.
 - POST TEST MARKET EVALUATION** leads to three decision points: **KILL**, **CONTINUE**, and **REFINE**.
 - CONTINUE** leads to **FINAL ROLLOUT PLAN**.
 - FINAL ROLLOUT PLAN** leads to **WAR GAMES**.
 - WAR GAMES** leads to **EXECUTIVE GROUP REVIEW**.
 - EXECUTIVE GROUP REVIEW** leads to three decision points: **KILL**, **TRAINING**, and **ROLL-OUT**.
 - TRAINING** leads to **ROLL-OUT**.
 - ROLL-OUT** leads to **EVALUATION AND MEASUREMENT**.
 - EVALUATION AND MEASUREMENT** leads to **TURN OVER TO PRODUCT MANAGEMENT**.
- Notes:**
- A green bar at the bottom indicates "Start Project".
 - A green bar at the bottom right indicates "Continuity".
 - A note at the bottom states: "Some, or all of these stages may not apply to smaller efforts, or those with low execution risk/low capital investment. For large projects, or those requiring post-pilot review and approval, these stages will apply (e.g. Investment Committee level projects)."

- Creative / Intuitive
- Qualitative / Subjective
- Possibilities / Holistic
- Conceptual abstractions



The you organize your thoughts



CyberSec in context: Welcome to the Serendipity Economy



The process of creation is distinct from value realization



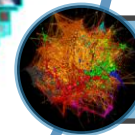
Value realization is displaced in time from the act that initiated the value



The measure of value requires external validation

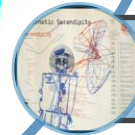


Value is not fixed and cannot be forecasted



Looking at a network in the present cannot anticipate either its potential for value nor any actual value it may produce

<http://sixdegrees.hu/last.fm/>



Serendipity may enter at any point in the value web, and it may change the configuration of the value web at any time

<http://www.medienkunstnetz.de/exhibitions/serendipity/>

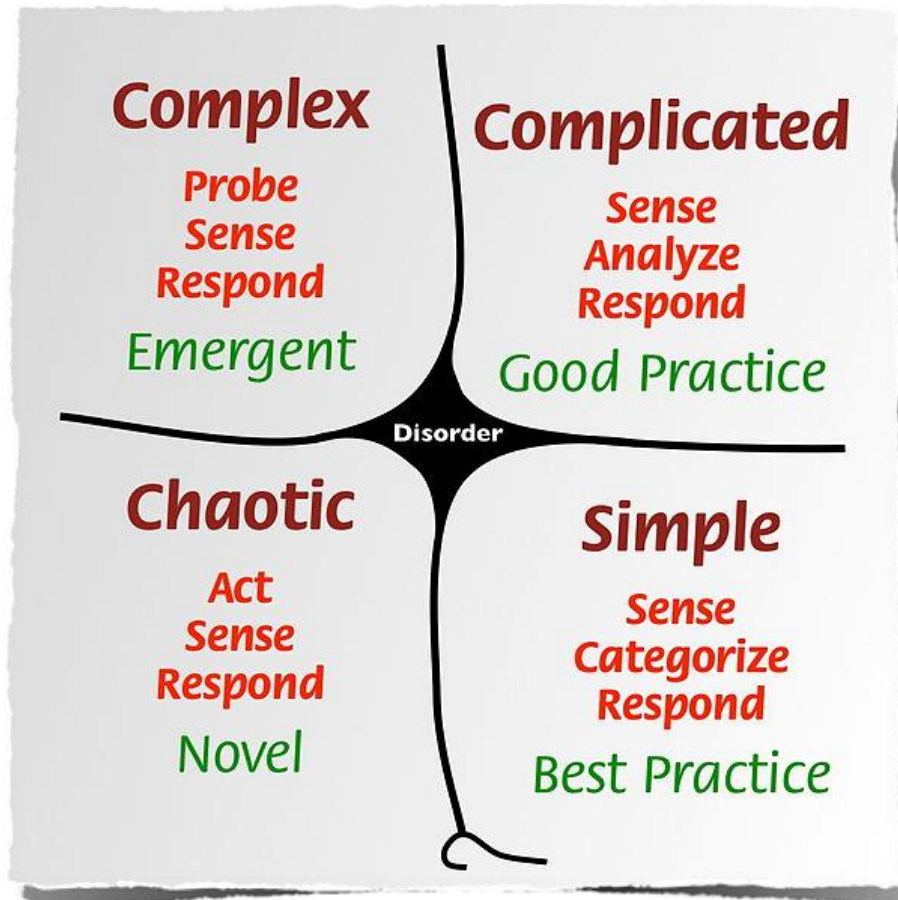
Image courtesy of Yoan Blanc - <http://www.flickr.com/photos/greut/502095764/>

<http://danielwrasmus.com/default.aspx>

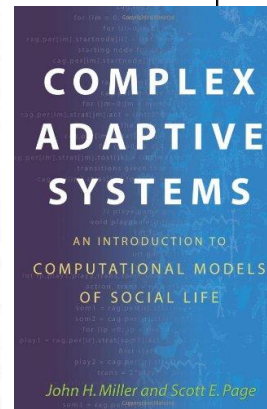
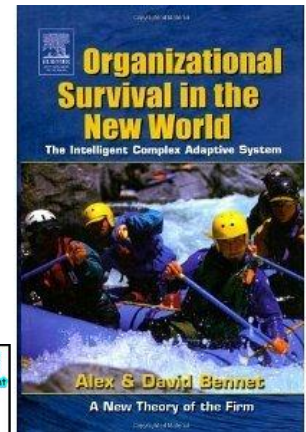
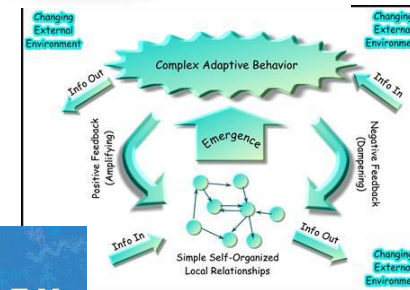
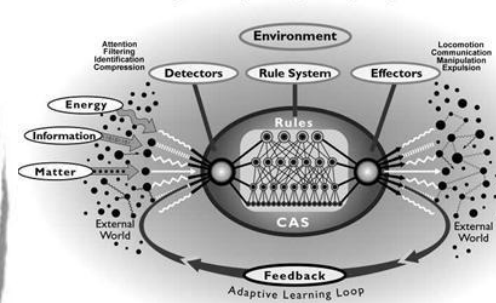
Consilience, Complexity and Emergence...

Cynefin Framework

<http://en.wikipedia.org/wiki/Cynefin>



Complex Adaptive System (CAS) Model



<http://www.youtube.com/watch?v=N7oz366X0-8>

<http://www.youtube.com/watch?NR=1&v=NugRZGDbPFU&feature=endscreen>

Collaboration and Co-creation: Sur/Petition

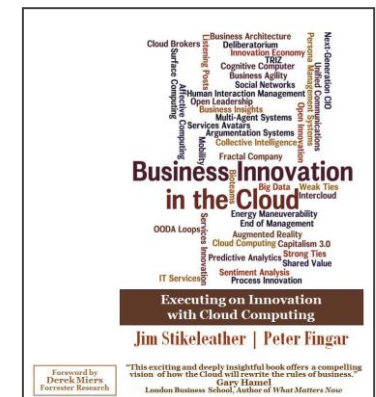
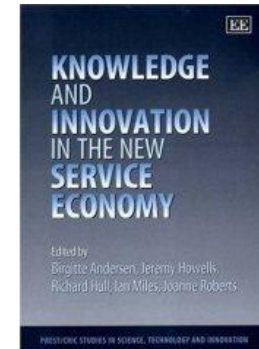
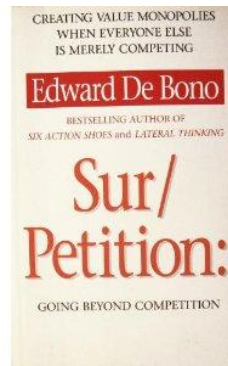
Customers, staff, partners, suppliers, competitors



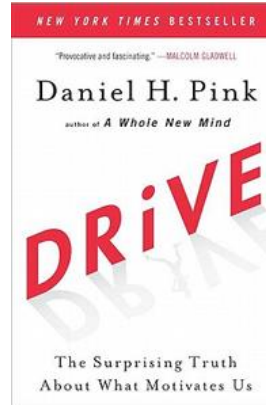
Sur/Petition – Moving Beyond Competition

Competition, with its focus on what others are doing, is only the baseline for survival. “Sur/petition” focuses on value creation, going beyond traditional strategic competition to exploit the vast potential of “integrated values” that surround the purchase and use of products and services.

de Bono, Edward, Sur/petition, Harper Collins, London



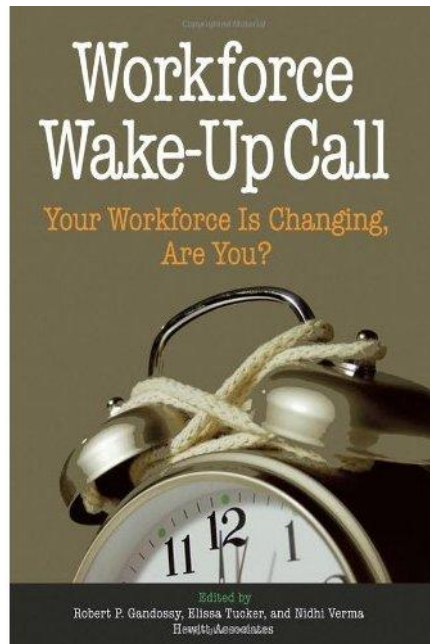
The Workforce – Not what it used to be....



<http://www.youtube.com/watch?v=u6XAPnuFjJc>

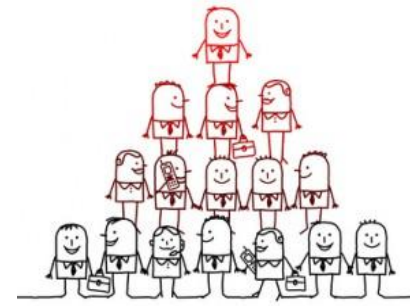


http://www.youtube.com/watch?src_vid=dk8UJ-JWg-o&feature=iv&annotation_id=annotation_593316&v=XCH4FrnLls

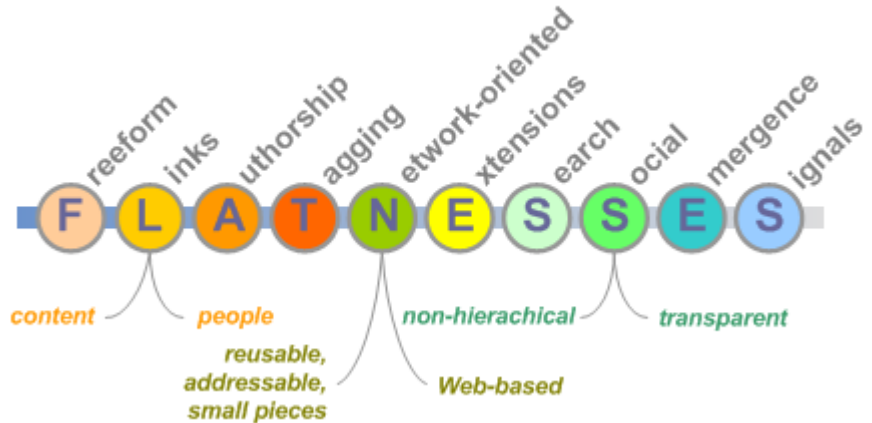
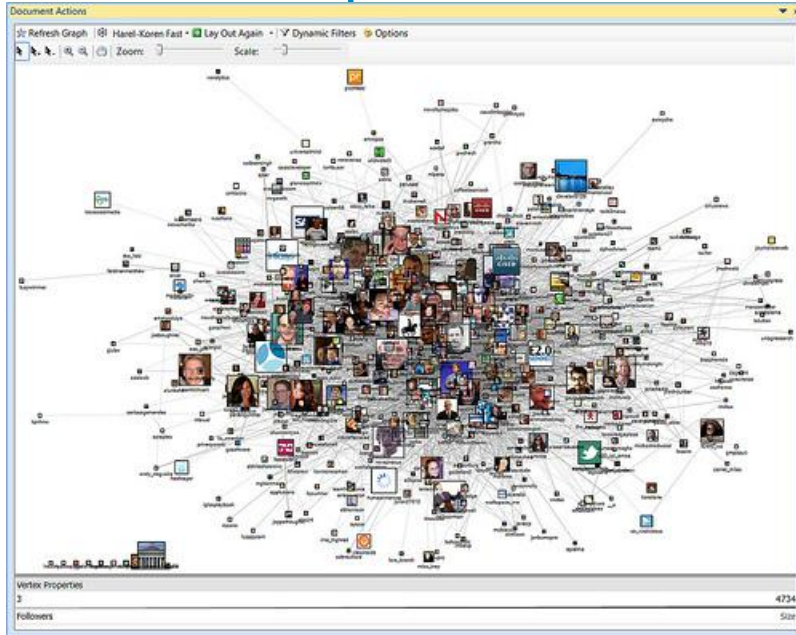


<http://www.theimaginationage.net/2010/01/smarter-work-data-visualizations.html>

The Fractal Organization and Enterprise 2.0



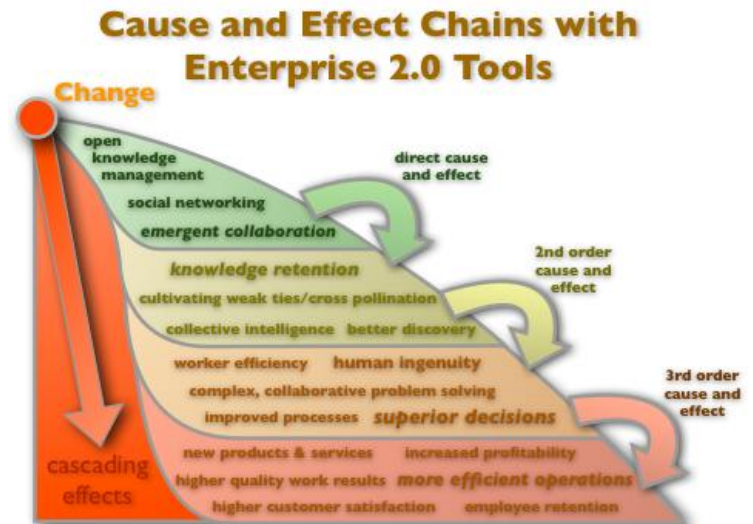
<http://www.boostzone.fr/en/the-fractal-nature-of-entreprise-2-0/>



<http://www.zdnet.com/blog/hinchcliffe/the-state-of-enterprise-20/143>



<http://wordle.net/>



From <http://blogs.zdnet.com/Hinchcliffe>

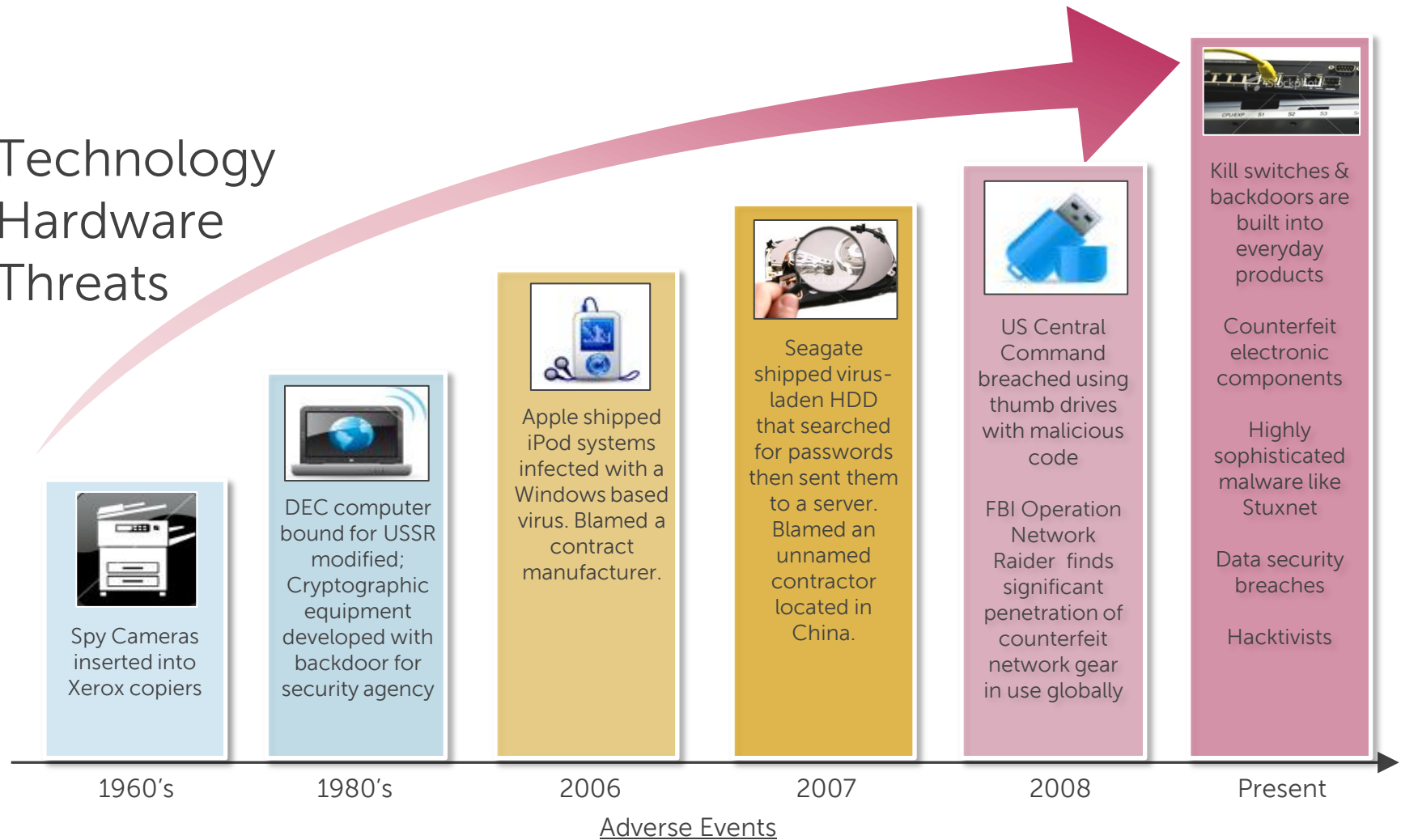
The Current CyberSec Model Will (continue to) Fail:

- Technology:
 - Point solutions
 - Point processes
 - Physicality
 - Standards “nice to have”
 - Interoperability HW/SW
- Governments
 - Economic risk / reward balance
 - Jurisdictional conflict (internal and external)
 - Geopolitical boundaries in cyberspace
 - Geopolitical ideals in cyberspace
- Enterprise
 - Parochialisms – image; legal; technology; competitive
 - ROI – Ford Pinto Approach
 - Secrecy – “Unsafe at any Speed” (Nader), “The Jungle” (Sinclair)
- Individuals
 - Reasonable, rational, prudent person
- Failure to see the common good
 - Law of the Commons



CyberSec in Real Space

Technology
Hardware
Threats

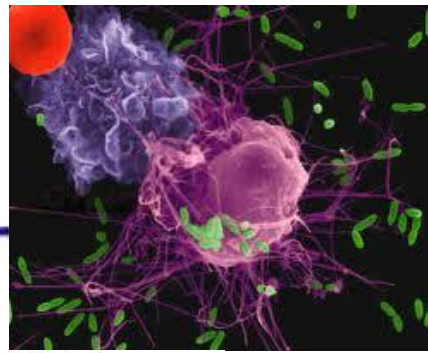
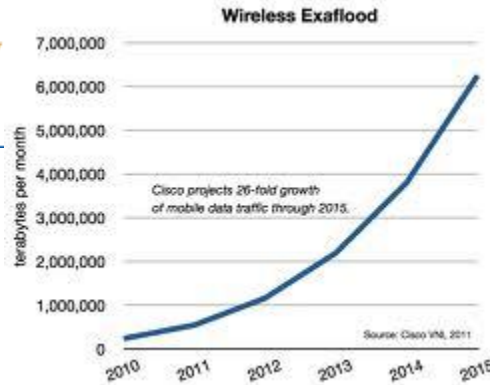


Industry-wide Risk Assessment (2010)

Supply Chain Security Risk Categories		Physical Security	Personnel Security	IT Security	Policy	Processes
Supply Chain Segments	Piece Part Manufacturing (from raw material)					
	Component Manufacturing & Sub-Assembly					
	Assembly & Imaging					
	2nd Touch Customization & Personalization					
	Merge, Distribution & Fulfillment					
	Customer Care Services					

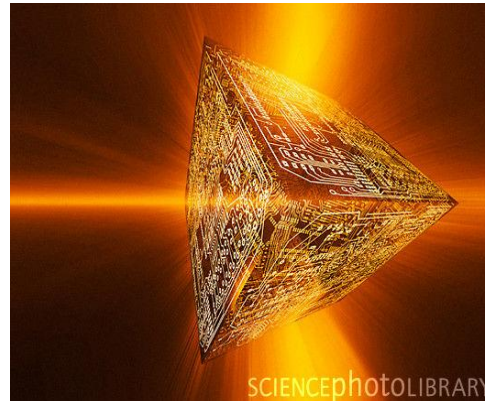
1. Supplier policies do not adequately address the detection / prevention of counterfeit components or product tampering (unwanted functionality or malware)
2. Required training for suppliers does not address some threats and risks to supply chain security adequately
3. OEMs need to enhance governance / auditing of supplier contractual requirements to ensure compliance

Safe Bets:

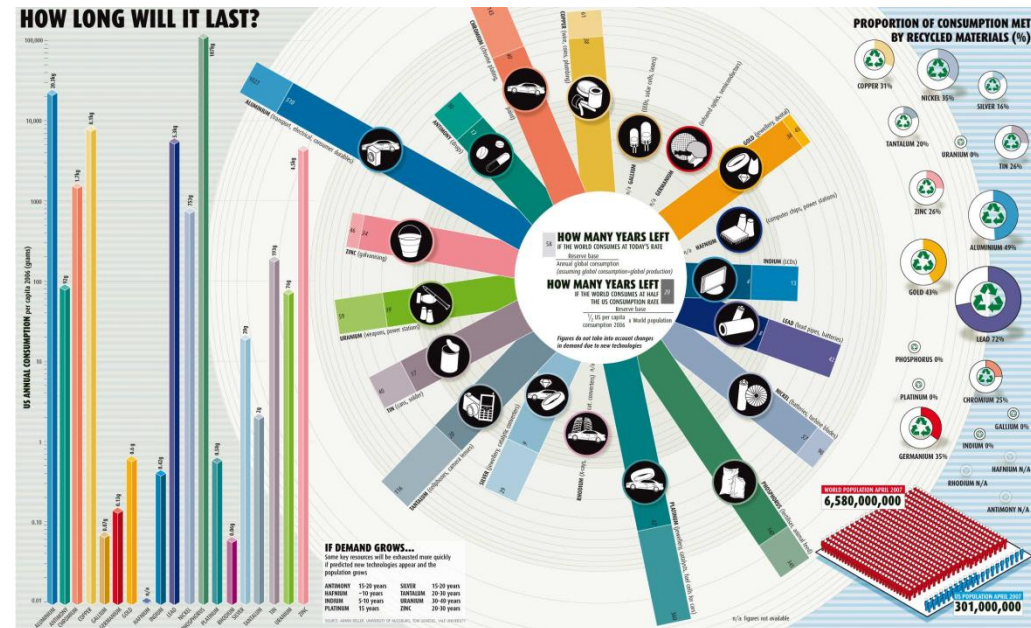
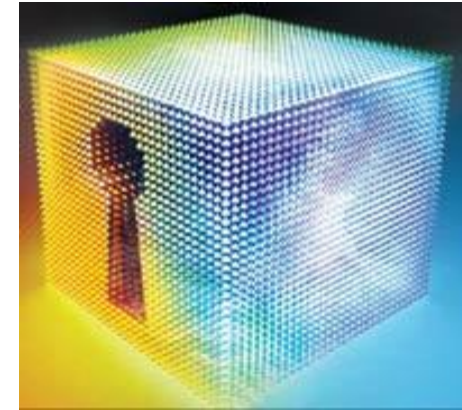


And then you flip a coin:

Quantum Wars

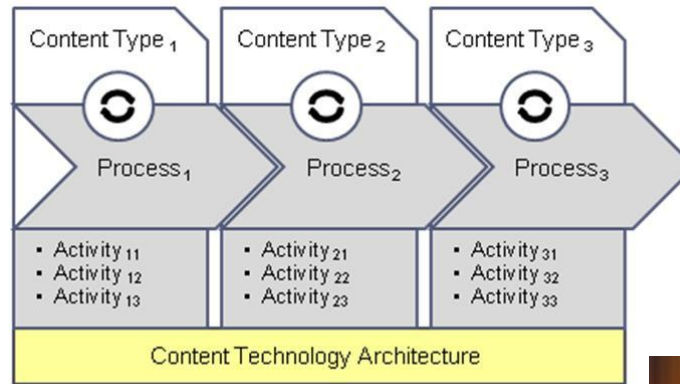
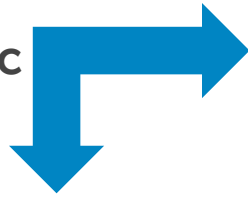


Computing Versus Security



A better way to be secured...

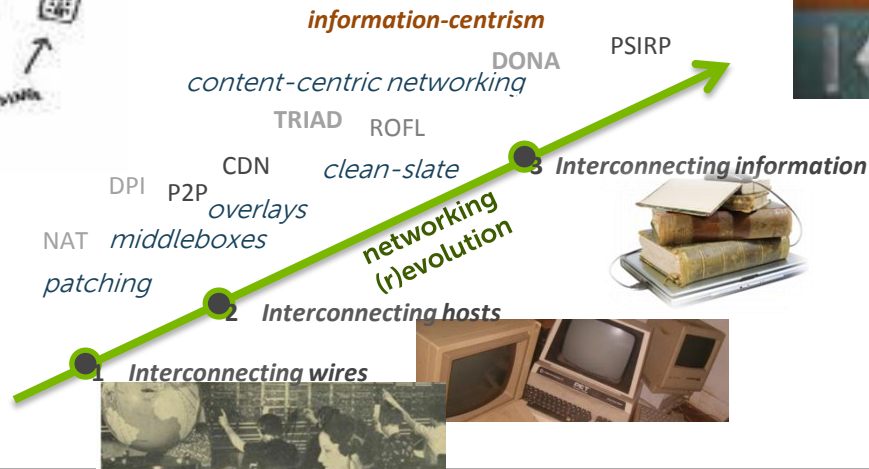
Content Centric Computing



Content Centric Storage



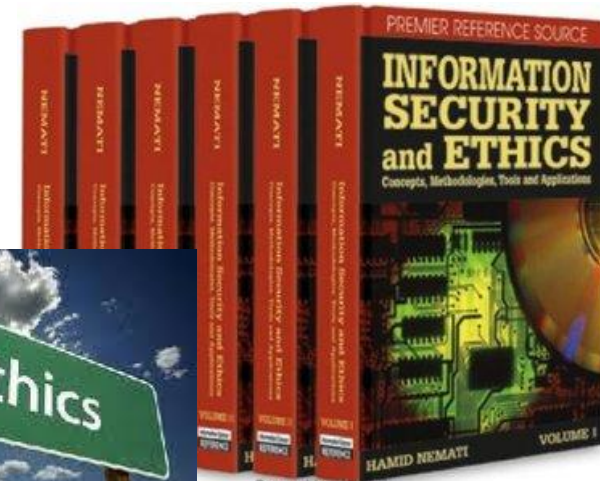
Content Centric Networking



Wildcards:



A HELPFUL VENN DIAGRAM



Thank you!



The power to do more

